

Work Order ID 119556

Friday, May 16, 2014 1:10:49 PM

\*119556\*

Page 1

Item ID: D3560-042

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Arm Weldment

Stop

\*NS2\*

Start Date: 5/15/14 Start Qty: 4.00

\*4\*

Cust Item ID:

Required Date: 5/15/14 Req'd Qty: 4.00

\*4\*

Customer:

Reference:

Approvals: Process Plan: M15

Date: 14-05-22

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date: \_\_\_\_\_

SPC (Y/N):

Date: \_\_\_\_\_

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D3560	Rev D								

140

Weld per dwg A/R Aluminum rod Batch: M12716 0.00

\*140\*

Large Fab

Large Fab

Memo

0.00

1-Weld assembly as per dwg D3560

STEP:

- 1- clean material (buff bracket and bottom of arm with blue pad )
- 2- set up bracket and arm on jig
- 3- preheat bracket and arm with torch
- 4- clean before welding with brush
- 5- set up machine to 135 amps
- 6- weld across bottom and top ends
- 7- reheat with torch ( 65 deg C )
- 8- on one side weld from bottom to top half way
- 9- same for other side (half way)
- 10- from half way point weld the rest of the first side (ease off pedal near end)
- 11- same for remaining side (ease off pedal near end)

(3) 14-06-10 PD

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Date:

## WORK ORDER NON-CONFORMANCE / UPDATE

The logo for DART Aerospace. It features a stylized 'D' composed of a downward-pointing triangle above a horizontal bar. To the right of the 'D' is the word 'DART' in a large, bold, sans-serif font. Below 'DART' is the word 'AEROSPACE' in a smaller, all-caps, sans-serif font.

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date:

## Work Order update only

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS									
Suspected Unapproved				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>							
Root Cause		Date	Step	Qty	Description of work order update or non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Design	<input type="checkbox"/>														
Doc/Data	<input type="checkbox"/>														
Equip/Tooling	<input type="checkbox"/>														
Handling/Pre	<input type="checkbox"/>														
Material	<input type="checkbox"/>														
Operator	<input type="checkbox"/>														
Offset/Setup	<input type="checkbox"/>														
Process	<input type="checkbox"/>														
Supplier	<input type="checkbox"/>														
Training	<input type="checkbox"/>														
Transport	<input type="checkbox"/>														
Unapproved	<input type="checkbox"/>														
FAULT CATEGORY															
Landing Gear				General				Process							
Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Inspection Strip in Tube Marks/Chatter Turning Sequence Wave/Twist in Tube				Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short Drawing Drill Holes Finish Fit/Function				Folio/Program Grain Hardware Inspection Incomplete/Unqualified Instructions Incomplete/Unclear Misaligned/off center Mislabeled Misread Off-set Out of Calibration Out of Sequence				Outside Dimensions Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge		Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other	



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only 

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Design											
Doc/Data											
Equip/Tooling											
Handling/Pre											
Material											
Operator											
Offset/Setup											
Process											
Supplier											
Training											
Transport											
Unapproved											
FAULT CATEGORY											
Landing Gear			General								
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function			<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence					
						<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge					
						<input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled					
						<input type="checkbox"/> Other					

**Work Order ID 119556**

Friday, May 16, 2014 1:10:49 PM

**\*119556\***

Page 3

Item ID: D3560-042

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Arm Weldment

Stop

**\*NS2\***

Start Date: 5/15/14 Start Qty: 4.00

~~\*4\*~~ 3

Cust Item ID:

Required Date: 5/15/14 Req'd Qty: 4.00

~~\*4\*~~

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 <b>*180*</b> QC	QC7-Inspect Chemical Conversion Coat	0.00							<i>3x</i> <i>14/06/17</i> <i>DAS</i> <i>3f</i> <i>9-89</i>
Quality Control	Memo	0.00							
190 <b>*190*</b> Small Fab	Small Fab	0.00							<i>3x</i> <i>14/06/17</i> <i>DAS</i> <i>3f</i> <i>9-89</i>
Small Fab	Memo	0.00							
Small Fab	1-Press bushing in D3560 arm per dwg D3562								
200 <b>*200*</b> QC	QC5- Inspect part completeness to step on W/O	0.00	<i>DAS</i> <i>27</i> <i>9-89</i>						<i>3</i> <i>14/06/17</i>
Quality Control	Memo	0.00	<i>M16/17</i>						

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_

Date: \_\_\_\_\_

Work Order update only 

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Design											
Doc/Data											
Equip/Tooling											
Handling/Pre											
Material											
Operator											
Offset/Setup											
Process											
Supplier											
Training											
Transport											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
				Bending <input type="checkbox"/>	Bend <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>			
Centre Not Concentric <input type="checkbox"/>				BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Set-up <input type="checkbox"/>				
Cracks <input type="checkbox"/>				Broken/Damage/Defect <input type="checkbox"/>	Hardware <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>				
Crimp/Kink/Ripple/Wave <input type="checkbox"/>				Burrs <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Weld <input type="checkbox"/>				
Cuffs <input type="checkbox"/>				Contamination <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Moved <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
Crushing <input type="checkbox"/>				Countersink <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
Heat Treat <input type="checkbox"/>				Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>					
Inspection Strip in Tube <input type="checkbox"/>				Drawing <input type="checkbox"/>	Misread <input type="checkbox"/>		Other <input type="checkbox"/>				
Marks/Chatter <input type="checkbox"/>				Drill Holes <input type="checkbox"/>	Off-set <input type="checkbox"/>						
Turning Sequence <input type="checkbox"/>				Finish <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>						
Wave/Twist in Tube <input type="checkbox"/>				Fit/Function <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>						

**Work Order ID 119556**

Friday, May 16, 2014 1:10:49 PM

**\*119556\***

Page 4

Item ID: D3560-042

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Arm Weldment

Stop

**\*NS2\***

Start Date: 5/15/14 Start Qty: 4.00

~~\*4\*~~ 3

Cust Item ID:

Required Date: 5/15/14 Req'd Qty: 4.00

~~\*4\*~~

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

Identify as per dwg & Stock Location: WAD03

0.00

3 DMC 14-6-23

**\*210\***

Packaging

Memo

0.00

Packaging

\*\*\* STOCK IN STEP CELL\*\*\*

220

QC21- Final Inspection - Work Order Release

0.00

MWT 14-06-23

**\*220\***

QC

Memo

0.00

Quality Control

AD 14-6-23

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_

Date: \_\_\_\_\_

Work Order update only 

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Design											
Doc/Data											
Equip/Tooling											
Handling/Pre											
Material											
Operator											
Offset/Setup											
Process											
Supplier											
Training											
Transport											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	Bend	Folio/Program	Outside Dimensions	Pressure/Forced							
Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Set-up							
Cracks	Broken/Damage/Defect	Hardware	Part Incorrect	Temperature/Cure							
Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld							
Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled							
Crushing	Countersink	Misaligned/off center	Positioned Wrong								
Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge	Other							
Inspection Strip in Tube	Drawing	Misread									
Marks/Chatter	Drill Holes	Off-set									
Turning Sequence	Finish	Out of Calibration									
Wave/Twist in Tube	Fit/Function	Out of Sequence									

# Picklist Print

Page 1

Friday, May 16, 2014 1:10:52 PM

Work Order ID: 119556

\*119556\*  
\*D3560-042\*

Parent Item: D3560-042

Parent Item Name: Arm Weldment

Start Date: 5/15/14

Required Date: 5/15/14

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 07.05.24 EC  
IPP rev B ECN 987 07.10.09 EC verified by: DD  
IPP Rev:C ECN1048 07-12-18 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2808 <b>*D2808*</b> Spacer		Manufactured	No				Each	88.0000	**	4	14/06/17	DAS 3f 9-89	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				GA			88				3		
					108634		28						
					109348		60						
D3560-2 <b>*D3560-2*</b> Arm		Manufactured	No				Each	3.0000	**	4	③ 14-06-10	PD	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				WA003			3				3		
					107829		3						
D3592-1 <b>*D3592-1*</b> Plate		Manufactured	No				Each	21.0000	**	4	③ 14-06-10	PD	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				WA003			21				3		
					107722		21						

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

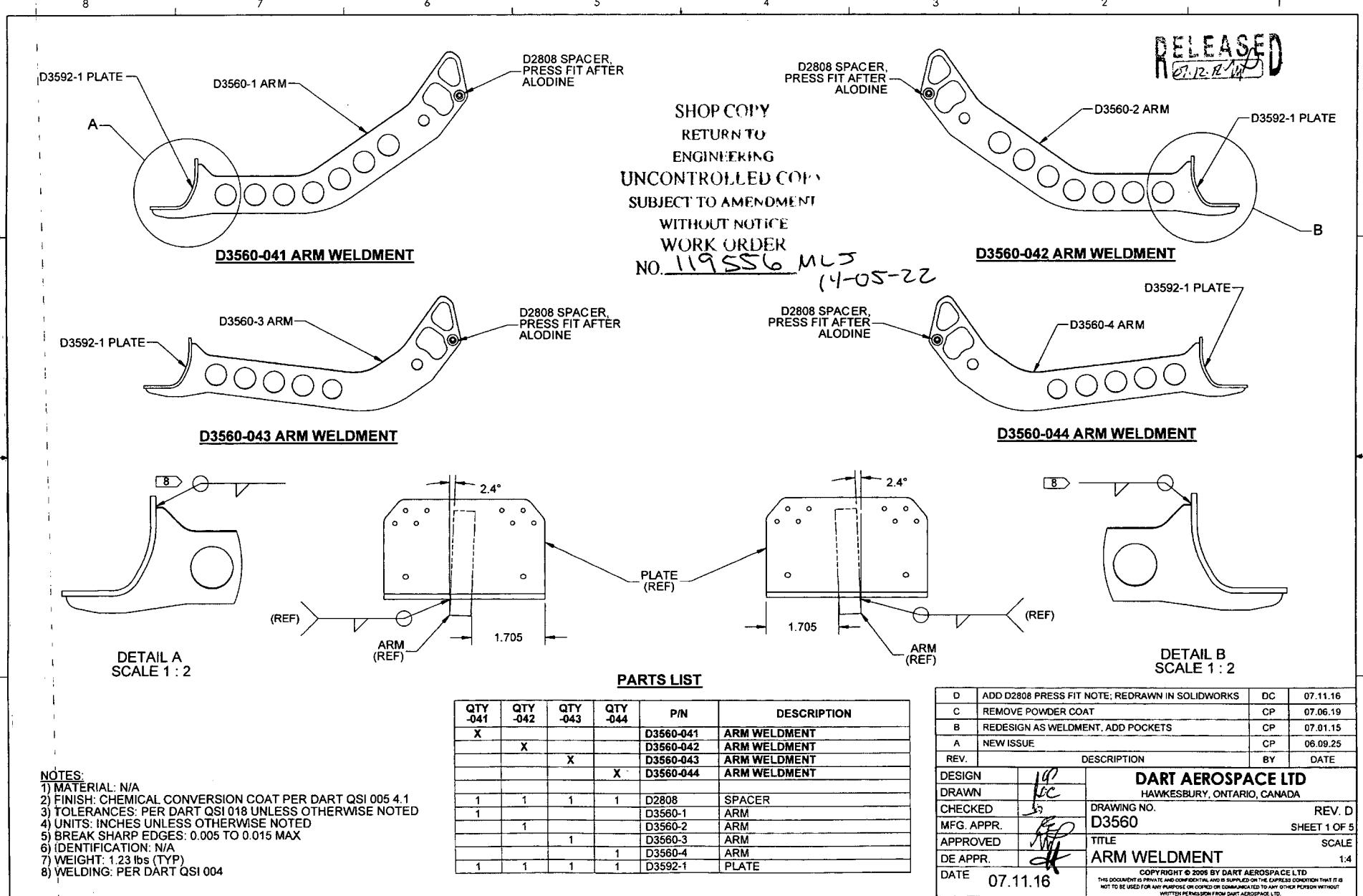
Work Order update only 

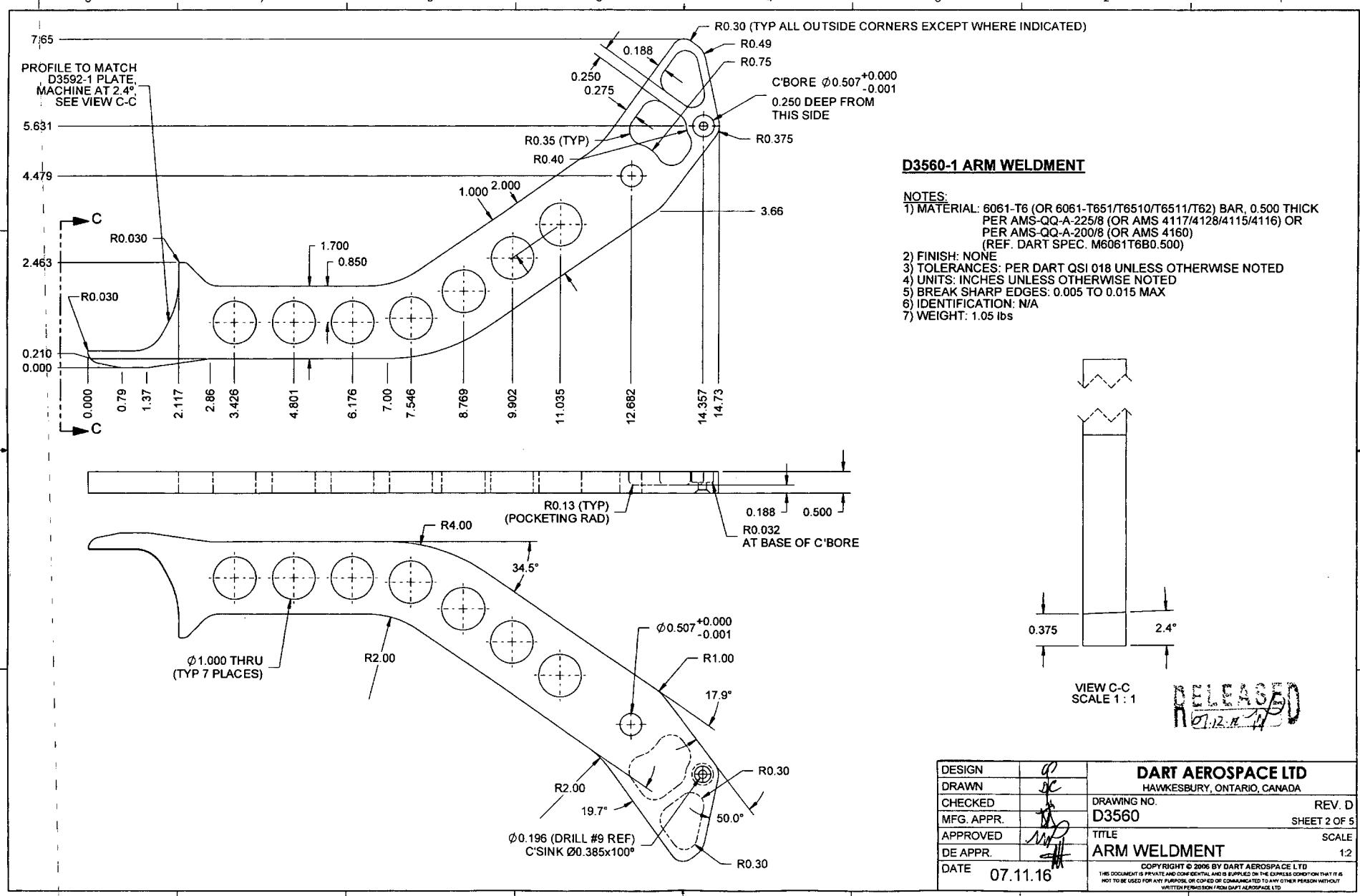
Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Part No. _____	Rework	Skid-tube	Crosstube	Water Jet	Engineering				
NCR No. _____	Scrap	Machining	Small Fab	Prod. Eng. Coor.	Quality				
	Use-as-is	Thermoforming	Finishing	Rec/Store/Packaging	Other				
	Suspected Unapproved	Large Fab	Composite	Supplier					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

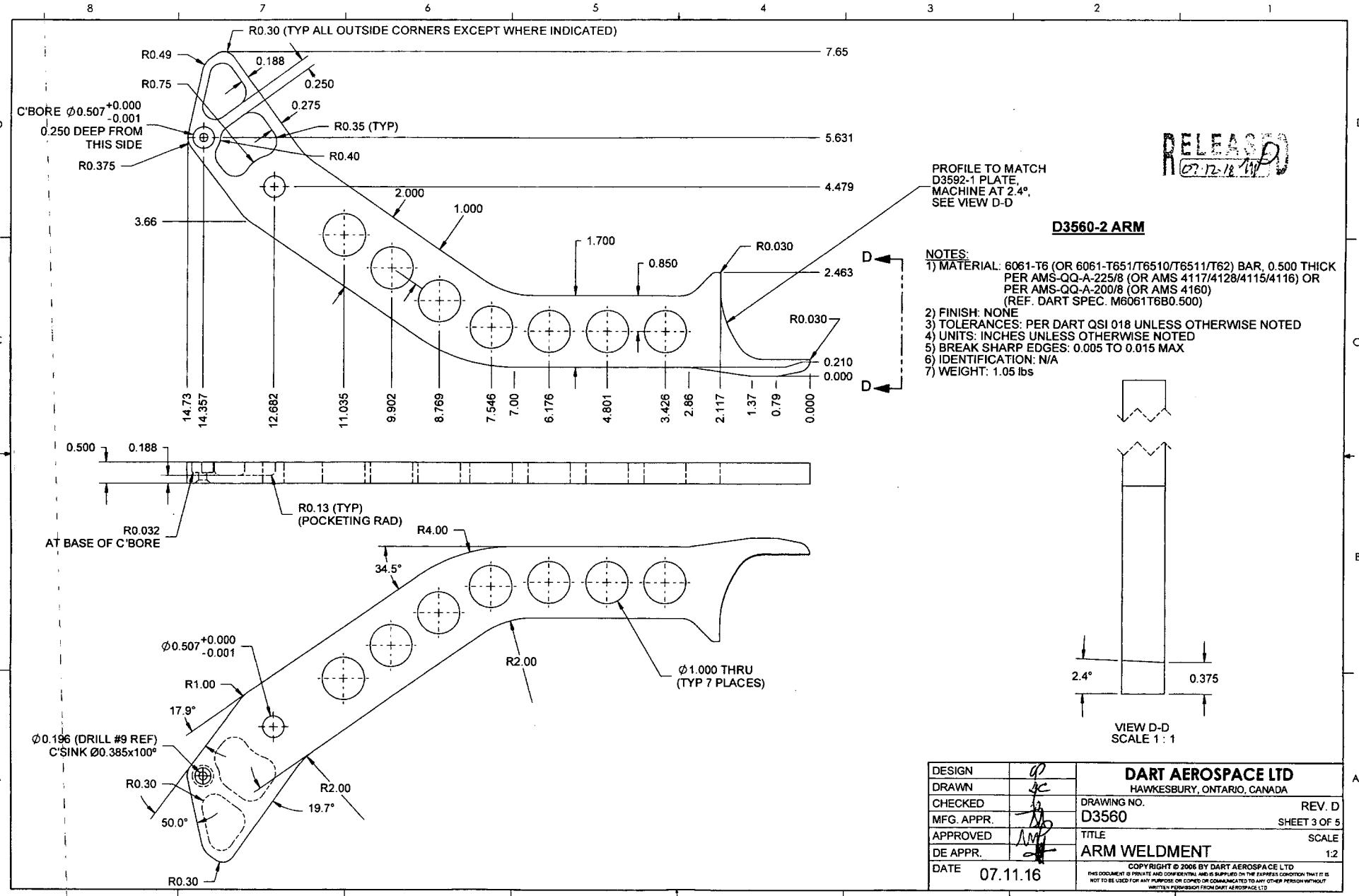
Landing Gear	General			
	Bending	Folio/Program	Outside Dimensions	Pressure/Forced
	Centre Not Concentric	Grain	Over/Under tolerance	Set-up
	Cracks	Hardware	Part Incorrect	Temperature/Cure
	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld
	Cuffs	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled
	Crushing	Misaligned/off center	Positioned Wrong	
	Heat Treat	Mislabeled	Power Loss/Surge	
	Inspection Strip in Tube	Misread		
	Marks/Chatter	Off-set		
	Turning Sequence	Out of Calibration		
	Wave/Twist in Tube	Out of Sequence		



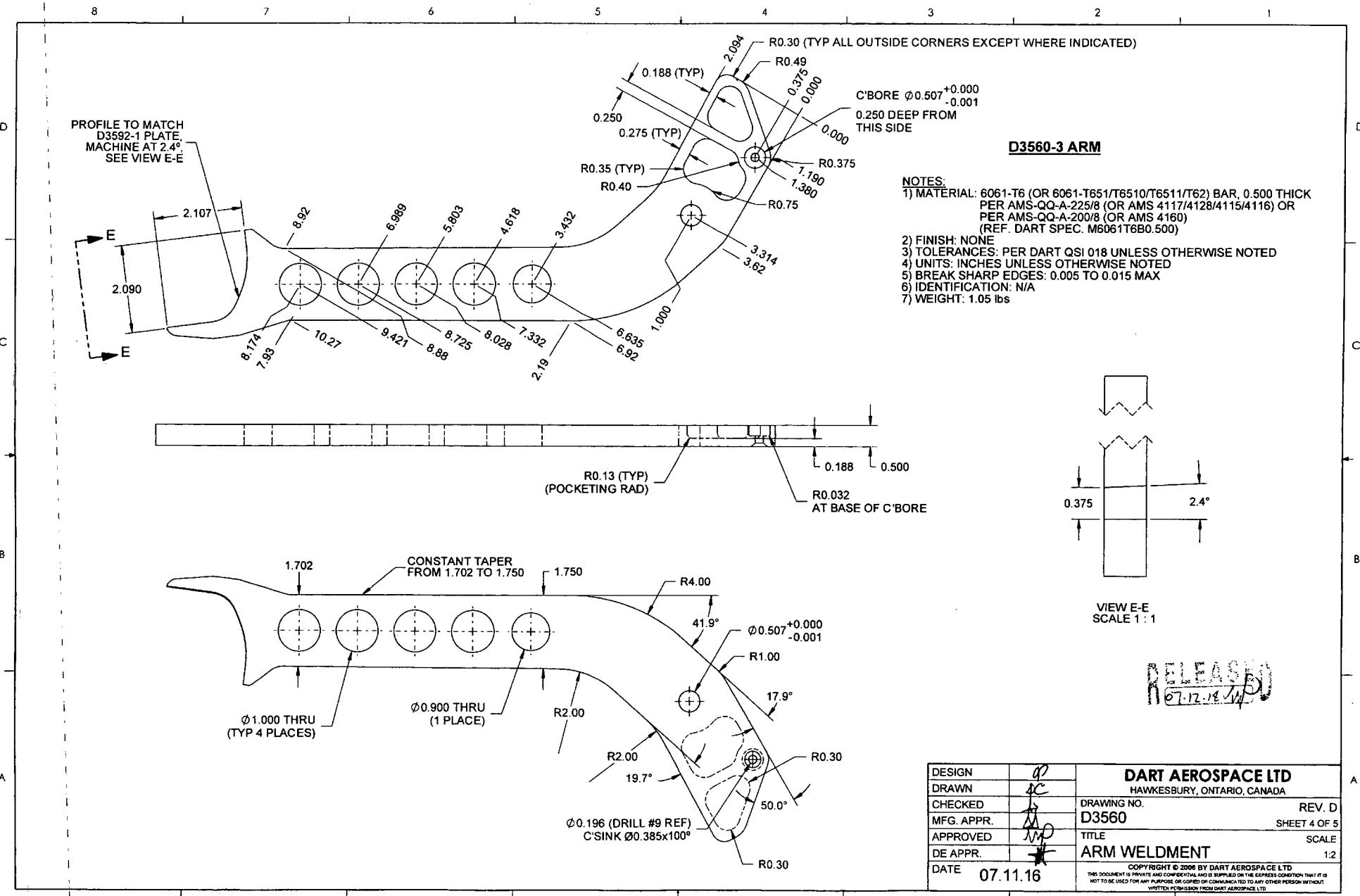


DESIGN	90	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	TA	DRAWING NO.	
MFG. APPR.	TA	REV. D	
APPROVED	MF	D3560	
DE APPR.	MF	SHEET 2 OF 5	
DATE	07.11.16	TITLE	ARM WELDMENT
		SCALE	1:2

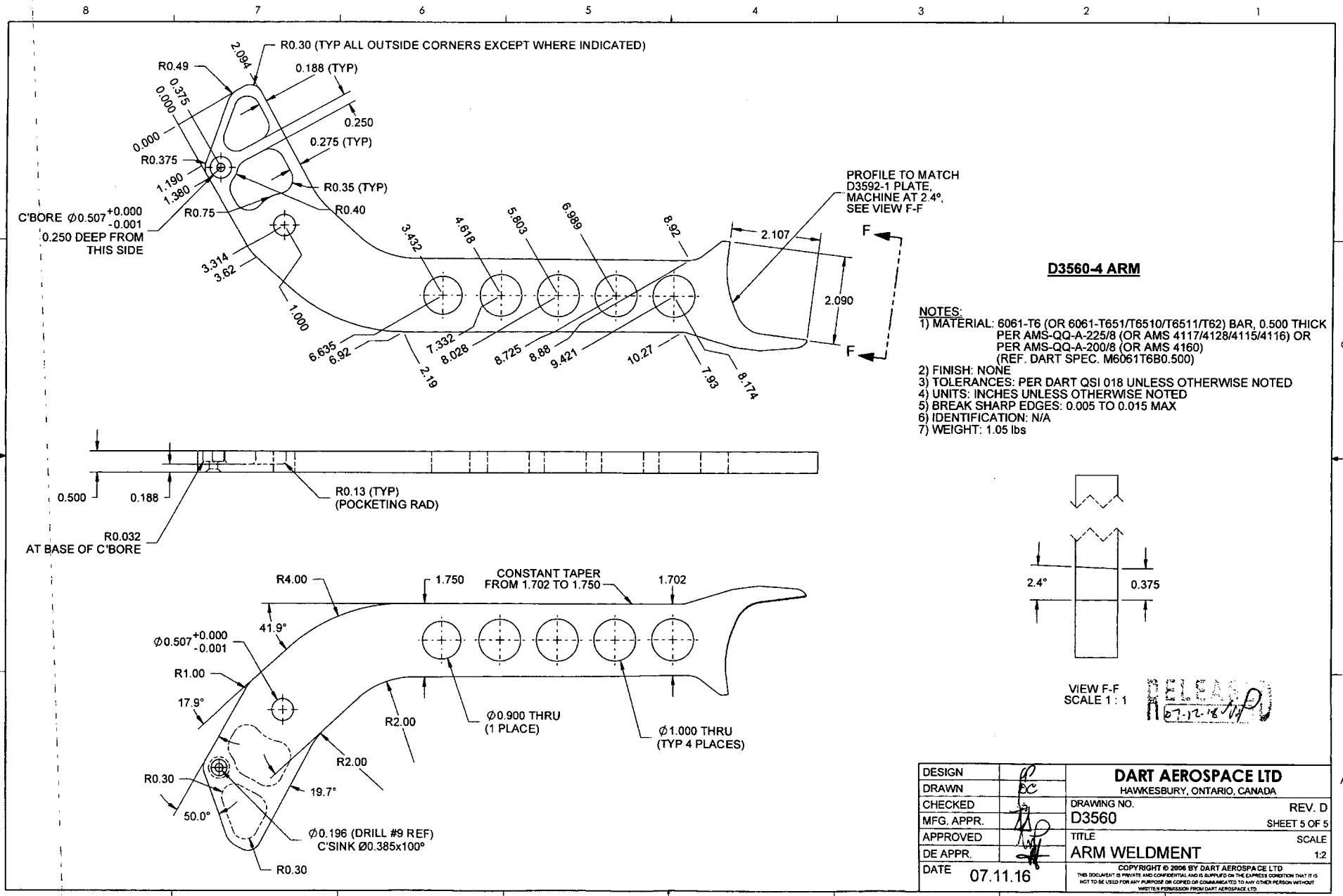
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DESIGN	9	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	9C		
CHECKED	13	DRAWING NO.	REV. D
MFG. APPR.	13	D3560	SHEET 3 OF 5
APPROVED	AM	TITLE	
DE APPR.		SCALE	
DATE	07.11.16	ARM WELDMENT	



DESIGN	97	DART AEROSPACE LTD		
DRAWN	4C	HAWKESBURY, ONTARIO, CANADA		
CHECKED	77	DRAWING NO.	REV. D	
MFG. APPR.	AM	D3560	SHEET 4 OF 5	
APPROVED	AM	TITLE	SCALE	
DE APPR.	*	ARM WELDMENT	1:2	
DATE	07.11.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD		
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DESIGN	<i>PF</i>	DART AEROSPACE LTD	
DRAWN	<i>DC</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>15</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>MM</i>	D3560	SHEET 5 OF 5
APPROVED	<i>WT</i>	TITLE	SCALE
DE APPR.	<i>WT</i>	ARM WELDMENT	
DATE	07.11.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS TO BE EXPOSED IN A CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS ISSUED BY THE PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	